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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,611	06/30/2000	Mikael Sylvest	42390P9502	8537

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EXAMINER

ARANI, TAGHI T

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/607,611

Applicant(s)

SYLVEST ET AL.

Examiner

Taghi T. Arani

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29,38 and 43 is/are allowed.
- 6) ☒ Claim(s) 25-28,30-37,39-42 and 44-46 is/are rejected.
- 7) ☒ Claim(s) 31,33,41 and 46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Claims 1-24 are now cancelled.  
Claims 25-46 are newly added.  
Claims 25-46 have been examined and are pending.

**Continued Examination Under 37 CFR 1.114**

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/26/2004 has been entered.

**Response to Amendment**

3. Applicant's amendment filed 11/26/2004 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, Applicant's arguments with respect to claims 25-41 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Objections***

4. Claim 31 is objected to because it depends on claim 25. This is improper dependent claim for purpose of applying art, the examiner assumes claim 31 depends on claim 30.

Claims 33 (line 2), 41 and 46 (line 3) recite "accept a port". The examiner assumes "except a port."

Appropriate corrections are required.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Art Unit: 2131

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 25, 30-33-34, and 39-41 are rejected under 35 U.S.C. 101 because the claims are directed to a non-statutory subject matter.

The Federal Circuit has recently applied the practical application test in determining whether the claimed subject matter is statutory under 35 U.S.C. 101. The practical application test requires that a "useful, concrete, and tangible result" be accomplished. An "abstract idea" when practically applied is eligible for a patent. As a consequence, an invention, which is eligible for patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The test for practical application is thus to determine whether the claimed invention produces a useful, concrete and tangible results.

The term "appears" recited in claims 25, 34 does not appear to recite a matter which provides a practical application with a concrete result.

Dependent claims 30-33 and 39-41 inherit non-statutory subject matter of the base claims 25 and 34.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2131

6. Claims 25-28, 30-37, 39-42, and 44-46 are rejected under 35 U.S.C. 102(b) as being anticipated by P. Bielkowicz and G. Parr, ACM SIGCOMM Computer Communication Review, vol. 19, Iss. 5, October 1989, pages 72-81.

**As per claims 25 and 34**, Bielkowicz and G. Parr teach a method and a machine readable medium comprising:

receiving an attribute at a particular node in a network, said attribute being disseminated among a plurality of nodes comprising the network (page 72, section 3.1.1, Bridge Bq issues loop detect packet and enters a loop detect Timeout period, where it expects to receive its own loop detect, see the structure of the loop detect packet (attribute));

determining if the attribute appears caught in a loop in the network (same section, As Bridge Bq receives loop detects, it examines to see if this packet was originally issued by itself denoting it is part of a loop and should switch to BACKUP); and

registering the attribute for the node if the attribute does not appear to be caught in a loop in the network (Page 73, first paragraph, under section 3.1.1, if the packet is from another bridge, Br, in which case its GBC (Global Bridge cache) is examined and if there is no entry one is made).

**As per claims 26 and 35**, Bielkowicz and G. Parr teach the method and the machine readable medium of claims 25 and 34 respectively, wherein determining if the attribute appears caught in a loop in the network comprises:

comparing an index key (page 72, tuples <src\_brid\_id, hop\_count, xreport#, served, opcode, ttl>) of the attribute to a plurality of previously stored index keys of attributes previously

Art Unit: 2131

registered for the node (page 72, first paragraph, under section 3.1.1, teaches that if there exists an entry (i.e. previously registered attributes), Bq determines (i) if the ,<xrport #> is different, and (ii) whether it is SERVED); and

if the index key is not among the previously stored index keys, processing as if the attribute is not caught in a loop (page 73, under section 3.1.1, if there is no entry (i.e. no index key) for the <src\_brid\_id>) field, Br, of the received loop detect in Bq's GBC one is made (i.e. processing as if attribute is not caught in a loop)).

**As per claims 27 and 36**, P. Bielkowicz and G. Parr teach the method and the machine readable medium of claims 25 and 34 respectively, wherein the attribute comprises an index key (page 72, section 3.1, structure of the loop detect packet), a value associated with the index key, and an incarnation identifier for the value (hop-count), and wherein determining if the attribute appears caught in a loop in the network comprises:

comparing the index key (page 72, tuples <src\_brid\_id, hop\_count, xrport#, served, opcode, ttl>) of the attribute to a plurality of previously stored index keys of attributes previously registered for the node (page 72, first paragraph, under section 3.1.1, teaches that if there exists an entry (i.e. previously registered attributes), Bq determines (i) if the ,<xrport #> is different, and (ii) whether it is SERVED);

if the index key is not among the previously stored index keys, proceeding as if the attribute is not caught in a loop (page 73, under section 3.1.1, if there is no entry (i.e. no index key) for the <src\_brid\_id>) field, Br, of the received loop detect in Bq's GBC one is made (i.e. processing as if attribute is not caught in a loop));

if the index key is among the previously stored index keys, comparing the

Art Unit: 2131

incarnation identifier of the attribute to a previously stored incarnation identifier of the corresponding previously stored attribute (page 73, section 3.1.2, i.e. when a bridge, Bi, receives an INIT (initial loop detect packet) from a bridge, Bj, which is already stored in Bi's GBC with a <hop-count=0 >(incarnation identifier), and the receive port address is the same); and

if the index key is among the previously stored index keys, and the incarnation identifier of the attribute does not match the previously stored incarnation identifier, processing as if the attribute is not caught in a loop (section 3.1.2 discloses the bridges forwarding loop detect packets (i.e. bridges not in a loop) increment the <hop\_count> field (incarnation identifier). That is, the bridges in forwarding state will have different <hop-count> value than the ones previously stored).

**As per claims 28 and 37**, P. Bielkowicz and G. Parr teach the method and the machine readable medium of claims 25 and 34 respectively, wherein the attribute comprises an index key (page 72, section 3.1, structure of the loop detect packet), a value associated with the index key, and an incarnation identifier for the value (hop-count), and wherein determining if the attribute appears caught in a loop in the network comprises:

comparing the index key (page 72, tuples <src\_brid\_id, hop\_count, xrport#, served, opcode, ttl>) of the attribute to a plurality of previously stored index keys of attributes previously registered for the node (page 72, first paragraph, under section 3.1.1, teaches that if there exists an entry (i.e. previously registered attributes), Bq determines (i) if the ,<xrport #> is different, and (ii) whether it is SERVED);

if the index key is not among the previously stored index keys, proceeding as if the

Art Unit: 2131

attribute is not caught in a loop (page 73, under section 3.1.1, if there is no entry (i.e. no index key) for the <src\_brid\_id>) field, Br, of the received loop detect in Bq's GBC one is made (i.e. processing as if attribute is not caught in a loop));

if the index key is among the previously stored index keys, comparing the incarnation identifier of the attribute to a previously stored incarnation identifier of the corresponding previously stored attribute (page 73, section 3.1.2, i.e. when a bridge, Bi, receives an INIT (initial loop detect packet) from a bridge, Bj, which is already stored in Bi's GBC with a <hop-count=0>(incarnation identifier), and the receive port address is the same); and

if the index key is among the previously stored index keys, and the incarnation identifier of the attribute does not match the previously stored incarnation identifier, processing as if the attribute is not caught in a loop (section 3.1.2 discloses the bridges forwarding loop detect packets (i.e. bridges not in a loop) increment the <hop\_count> field (incarnation identifier). That is, the bridges in forwarding state will have different <hop-count> value than the ones previously stored);

if the index key is among the previously stored index keys, and the incarnation identifier of the attribute does match the previously stored incarnation identifier, comparing a receiving port identifier of the attribute to a previously stored receiving port identifier of the corresponding previously stored attribute (page 73, section 3.1.2 discloses that when a Bridge Bi receives INIT from a bridge Bj which is already stored in Bi's GBC with a <hop\_count>=0 (incarnation identifier does match the previously stored on), and the receive port address is the same, Bi can



Art Unit: 2131

observe immediately that Bj is a “rebooting” bridge, or the re-incarnation in a previously existing bridge); and

if the index key is among the previously stored index keys, and the incarnation identifier of the attribute does match the previously stored incarnation identifier, and the receiving port identifier of the attribute does match the previously stored receiving port identifier, processing as if the attribute is not caught in a loop (page 73, section 3.1.2 discloses that when a Bridge Bi receives INIT from a bridge Bj which is already stored in Bi’s GBC with a <hop\_count>=0 (incarnation identifier does match the previously stored on), and the receive port address is the same, Bi can observe immediately that Bj is a “rebooting” bridge, or the re-incarnation in a previously existing bridge (i.e. processing as if it is not caught in a loop) and issues a loop detect reboot packet as to inform the remote bridge what has happened and to prevent other bridges dropping this packet);

**Claim 42** is a system corresponding to method claim 25, Bielkowicz and G. Parr disclose the system corresponding to the method claim 1 (see Fig. 2 and 3). Claim 42 is rejected for the same reasons provided in the rejection of claim 25 above.

**As per claims 30, 39 and 44**, Bielkowicz and G. Parr teach wherein registering the attribute comprises: storing the attribute to local memory (see page 72, Global Bridge Cache storing single entry for each bridge whose loop detect packet (attribute) are received).

**As per claim 31**, Bielkowicz and G. Parr teach the method of claim 25 wherein storing the attribute to local memory comprises at least one of;

overwriting an older version of the attribute in the local memory; and

Art Unit: 2131

recording a receiving port identifier for the attribute (page 76, section 4. GBC TUPLE MANAGEMENT).

**As per claims 32, 40 and 45**, Bielkowicz and G. Parr teach ignoring the attribute if the attribute appears to be caught in a loop (page 73, section 3.1.1 (if the tuple has already been SERVED, or the receive ports are the same, drop the packet completely, i.e. appears caught in a loop).

**As per claim 33, 41 and 46**, Bielkowicz and G. Parr teach multicasting the attribute from port of the node accept (except) a port at which the attribute was received if the attribute appears not to be caught in a loop (Page 72. structure of the loop detect packet where target-id=multicast bridge group address, see also page 77 where forward on all ports  $\diamond$  receive port).

**Claims 29, 38 and 43** are allowed over prior art of record.

### **Conclusion**

7. Prior arts made of record, not relied upon:

U.S. Patent No. 5, 959,968 to Chin et al.

U.S. Patent No. 6,556,541 to Bare.

U.S. Patent No. 580,715 to Bare.

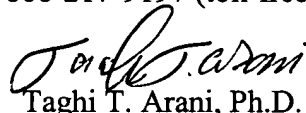
Perlman, Radia, A protocol for Distributed Computation of a Spanning Tree in an Extended LAN, ACM 1985, Downloaded from the Internet July 30, 2005.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taghi T. Arani whose telephone number is (571) 272-3787. The examiner can normally be reached on 8:00-5:30 Mon-Fri.

Art Unit: 2131

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Taghi T. Arani, Ph.D.

Examiner

Art Unit 2131

8/4/05